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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/624,098	07/24/2000	Mario Tenua	2527-1A	5268

7590

09/02/2003,

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EXAMINER

NAFF, DAVID M

ART UNIT

PAPER NUMBER

1651

DATE MAILED: 09/02/2003

18

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/62/088

Applicant(s)

Tanaka et al

Examiner

Kaff

Group Art Unit

1657

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

## Status

- ☒ Responsive to communication(s) filed on 11/20/03
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- ☒ Claim(s) 1-15 + 20 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-15 + 20 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - ☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
  - ☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

## Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). \_\_\_\_\_
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

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The response of 1/21/03 provides a copy of an amendment filed 12/12/02 before the office action of 12/17/02.

The amendment amended claim 1.

Claims examined on the merits are 1-15 and 20 which are all  
5 claims in the application.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C.  
10 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

15 Claims 1-15 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Reciting "in an amount sufficient to convert said nitrogen  
20 containing material" (bridging lines 4 and 5 of claim 1) is confusing by requiring the amount to cause conversion, which is not the case. Lowering the pH causes the conversion. It is suggested that "convert said nitrogen containing material to" be replaced with --- generate ---, and in line 5 cancel "thereby".

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***Claim Rejections - 35 USC § 103***

Claims 1-15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis et al in view of Raskin et al (6,159,270) and Cooley (6,300,282 B1), and if necessary in further view of Behel Jr.

5 (5, 366, 533) or Weltzien et al (4,919,702).

The claims are drawn to a method of controlling soilborne pathogens in soil by adding to the soil a nitrogen-containing material and a pH reducing agent to reduce the soil pH to below 5.5. The nitrogen containing material is in sufficient amount to produce  
10 sufficient nitrous acid to control the soilborne pathogens.

Davis et al disclose that the general consensus is that potato scab disease is decreased by lowering the pH below 5.2 (page 35, second paragraph under "Introduction").

Raskin et al disclose adding citric acid to soil to reduce the pH  
15 of the soil to 4.5-5.5 in removing contaminant metals in soil.

Cooley discloses adding an ammonium nitrogen source to soil when growing potatoes (col 1, lines 33-45).

Weltzien et al disclose adding a fertilizer to soil that contains ascorbic acid (col 3, lines 19-29) and an ammonium nitrogen source  
20 (col 5, lines 25 and 34-37).

Babel Jr. discloses adding to soil a citrus by-product that provides citric acid in soil to complex with iron and make the iron available for plants (col 2, lines 55-66 and col 6, line 56).

When controlling potato scab disease by lowering the pH of soil  
25 below 5.2 as disclosed by Davis et al, it would have been obvious to

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add citric acid to the soil to provide the lower pH as suggested by Raskin et al, and if needed as further suggested by Babel Jr, providing citric acid to soil or by Weltzien et al adding to soil a fertilizer containing ascorbic acid. Combining an ammonium nitrogen source with soil when growing potatoes as disclosed by Cooley would have suggested adding an ammonium nitrogen source when lowering the pH to control potato scab disease as disclosed by Davis et al. If needed, Weltzien et al would have further suggested adding an ammonium nitrogen source to provide nitrogen as a nutrient. Forming nitrous acid as required by claim 1 would have been inherent when lowering the pH of soil below 5.2 as suggested by Davis et al and adding an ammonium nitrogen source as suggested by Cooley. Furthermore, when planting and growing potatoes, it is conventional to add animal manure as a nitrogen source, and such nitrogen source would have also inherently provided nitrous acid as claimed. The limitations of dependent claims would have been matters of obvious choice within the skill of the art in view of the disclosures of the references.

#### ***Response to Arguments***

Applicant's arguments filed 1/21/03 have been fully considered but they are not persuasive.


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The Lazarovits Declaration showing that pH lowering alone has no effect on disease incidence fails to obviate the rejection since lowering the soil pH below 5.2 as suggested by Davis et al in combination with adding an ammonium nitrogen source as taught by Cooley would have inherently provided nitrous acid as claimed and resulted in control of the potato scab pathogen. When lowering the pH as suggested by Davis et al, it would have been clearly obvious to add an ammonium nitrogen source since this is conventional when growing potatoes as taught by Cooley.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M. Naff whose telephone number is 703-308-0520. The examiner can normally be reached on Monday-Friday about 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn can be reached on 703-308-4743. The fax phone number for the organization where this application is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application should be directed to the receptionist whose telephone number is 703-308-0196.

  
David M. Naff  
Primary Examiner  
Art Unit 1651

DMN

8/29/03